

REMARKS

Applicants appreciate the courtesies extended to their representative, Allan Fanucci, during an interview with Examiner Dilinh Nguyen on January 13, 2006. The comments appearing herein are substantially the same as those presented and discussed at the interview.

Claims 1-20, as amended, are presently pending. Claims 2 and 19 have been amended to recite that the heating rate conducted for the present process is less than that conducted for a uniform heating rate or that the heating time is longer than that conducted for a uniform heating rate of 50°C/sec., as supported by Figure 2b and paragraph [0008]. Also, claim 20 has been re-written in independent form. No new matter has been introduced so that these amendments should be entered.

The indication of allowable subject matter in claim 20 is noted with appreciation. As claim 20 is re-written in independent form, it is now in condition for allowance.

Claims 1-19 were again rejected under 35 U.S.C. 102(e) as being anticipated by prior art described in the specification of the present application ("the described prior art"). Applicants traverse this rejection for the reasons that follow.

First of all, it is important to note that claim 20 has been found to include allowable subject matter. This further suggests that claims 1 and 19 are also allowable, since both of those independent claims also define heating processes that are non-rectilinear. Claim 1, which is directed to a method for minimizing slip line faults on a surface of a semiconductor, specifically recites a particular states further heating step that is not disclosed in or suggested by the prior art.

This further heating step includes heating during an initial portion of the time interval at a relatively low heating rate and heating during a final portion of the time interval at a relatively higher heating rate. Heating rates cannot be rectilinear unless they are the same, and since these heating rates are not the same they are not rectilinear. Similarly, claim 19 recites the same heating rates as claim 1 but adds the inherent feature that the overall heating time is conducted longer than one conducted at a uniform heating rate at 50°C/sec. This is also shown in drawing figure 2b, where the sloped line on the left represents a heating rate of 50°C/sec.

Thus, the claims define a different heating procedure than the prior art. Furthermore, by conducting the further heating in such a manner, slip line faults are minimized in the surface of the wafer (see table in paragraph [0033] of the published specification).

It is believed that the rejection is based upon an error in the specification in paragraph [0027], where the description of Figures 2a and 2b was reversed in that paragraph. This error has now been corrected with no new matter being added because the correct relationships are illustrated in the graphs shown in Figures 2a and 2b as originally filed. Thus, the claims define a further heating step conducted at different rates to distinguish the invention from the prior art which only describes a constant heating rate.


Moreover, this distinction is clearly explained in the specification of the present application. The specification explains that the present invention (such as that described by claim 1) is performed to minimize slip line faults that occur from using the described prior art RTA process in the specification. The use of non-rectilinear heating rates enables the wafer to be exposed to the heating temperatures for a longer time than if a constant heating rate is applied. This longer heating time unexpectedly reduces and minimizes the occurrence of slip lines in the wafer. This feature is not obvious from the teachings or practices of the prior art.

Accordingly, withdrawal of the rejection is respectfully requested. As all other remaining claims depend from claim 1, these claims are allowable at least because claim 1 is allowable.

In view of the above, it is believed that the entire application is now in condition for allowance, early notice of which would be appreciated.

Respectfully submitted,

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